COASTAL CONSERVANCY

Staff Recommendation
March 24, 2016

SALT RIVER ECOSYSTEM RESTORATION PROJECT: PHASE 2A (UPPER)

Project No.11-025-03
Project Manager: Michael Bowen

RECOMMENDED ACTION: Authorization to disburse up to $649,000 to the Humboldt County Resource Conservation District to implement Phase 2A (Upper) of the Salt River Ecosystem Restoration Project.

LOCATION: Ferndale, Humboldt County

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

Exhibit 1: Project Location and Site Map

Exhibit 2: Staff Recommendations October 21, 2010, May 19, 2011, June 25, 2015,

Exhibit 3: Project Letters

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31251 through 31270 of the Public Resources Code:

"The State Coastal Conservancy hereby authorizes the disbursement of up to six hundred forty nine thousand dollars ($649,000) to the Humboldt County Resource Conservation District ("RCD") to implement Phase 2A (Upper) of the Salt River Ecosystem Restoration Project, subject to the following conditions:

1. Prior to the disbursement of funds, the RCD shall submit for review and approval by the Executive Officer of the Conservancy:
   a. A work program, including final design plans and specifications, schedule and budget for construction.
   b. All contractors to be employed for the project.
   c. Evidence that all necessary permits, landowner access agreements and approvals have been obtained.

d. A signing plan for the project acknowledging Conservancy funding and acknowledging Proposition 1 to the extent practicable.

2. In carrying out the project, the RCD shall comply with all applicable conditions and mitigation and monitoring measures for the project that are identified in the *Final Environmental Impact Report: Salt River Ecosystem Restoration Project*, *Appendix F,* and any conditions, mitigation or other measures required by any permit or approval for the project."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed project is consistent with the current Project Selection Criteria and Guidelines.
2. The proposed authorization is consistent with the purposes and objectives of Chapter 6 of Division 21 of the Public Resources Code, regarding the enhancement of coastal resources.
3. The Conservancy independently reviewed the *Final Environmental Impact Report: Salt River Ecosystem Restoration Project,* certified by the RCD on February 24, 2011, pursuant to the California Environmental Quality Act, public comment to the FEIR, and the Mitigation Monitoring and Reporting Program. At its May 19, 2011 meeting, the Conservancy found that the Salt River Ecosystem Restoration Project as designed avoids, reduces or mitigates the potentially significant environmental effects to a less-than-significant level, and that there is no substantial evidence based on the record as a whole that the Salt River Ecosystem Restoration Project may have a significant effect on the environment, as defined in 14 Cal. Code Regulations Section 15382. Phase 2A (Upper) of the Salt River Ecosystem Restoration Project remains consistent with the May 19, 2011 authorization."

PROJECT SUMMARY:

Staff recommends the Conservancy authorize disbursement of up to $649,000 to the Humboldt County Resource Conservation District ("RCD") to implement the Salt River Ecosystem Restoration Project Phase 2A (Upper) in Ferndale, Humboldt County. Provision of funding by the Conservancy will enable the RCD to implement the next phase of construction for the Salt River Ecosystem Restoration Project ("Project") this summer. Doing so will also help the Ferndale agricultural community address longstanding problems of flooding and provide substantial enhancement to the degraded natural resources of the area. This particular component of the Project is especially important to relieving flooding to the City of Ferndale, and the farms, dairies and homes near the confluence of Francis Creek and the Salt River.

The Project comprises four components: wetland and upland restoration on the 440-acre Riverside Ranch property; erosion-reduction projects on private lands in the surrounding Wildcat Hills; excavation of a restored Salt River channel, also on private lands, to improve habitat and flood conveyance; and long-term adaptive maintenance, management and continued enhancement of the restored project area through an adaptive management plan. Implementation of this expansive project has been divided into several phases (Exhibit 1).

The first phase, restoration of Riverside Ranch and the adjacent portion of the Salt River Channel concluded in 2013 and resulted in the restoration of more than 330 acres of tidal marsh and 2.5

miles of primary tidal slough channel, as well as additional slough channels on the property. The cost was approximately $8 million.

Phase 2A (Lower), completed in 2014, involved channel excavation and restoration of approximately 1.2 miles of restored channel, floodplain and riparian habitat along the historic Salt River channel. Restoration work in 2014 also included realignment of Reas Creek and re-connection of the Meridian Road drainage just upstream of the Dillon Road Bridge. Phase 2A (Lower) also included the restoration of the Toste Parcel, acquired by the Salt River Watershed Council with funding from the Coastal Conservancy, for provision of additional enhancement opportunities and future public access. The 2014 construction season resulted in excavation of approximately 82,000 cubic yards of sediment, which was hauled off and applied as an agronomic amendment to local dairy pastures in the area. The cost was approximately $3.5 million.

Phase 2A (Middle) (formerly referred to as Phase 2B), restoration of the Salt River adjacent to Port Kenyon, concluded in 2015 at a cost of approximately $3.1 million. This phase of the Project comprised construction of approximately 2,000 linear feet of full channel and floodplain (~ 72,000 cy of excavation) to improve drainage around Port Kenyon Road and construction of related pilot channels to connect to the existing drainages along Port Kenyon road and around Ferndale's wastewater treatment facility. The segment of the Salt River channel at the confluence of Francis Creek has the highest volume of sediment per linear foot in the total project area (approximately 44 cubic yards/linear foot, compared to 12 cubic yards per linear foot near Reas Creek). Excavation and hauling of sediment is the Project's primary cost driver; therefore, the Project's progress up the channel in 2015 was only a third of the distance completed in 2014.

Following each of these project phases, biological monitoring results have demonstrated a dramatic biological response, particularly restored vegetation, bird life and aquatic species such as coho, Chinook, coastal cutthroat, steelhead and tidewater goby.

Finally, and the subject of this grant proposal, Phase 2A (Upper) of the Project, slated for construction season 2016, seeks to restore the Salt River channel from the existing rock control grade structure downstream of the Ferndale Wastewater Treatment Plant to the area around Fulmor Bridge, including the confluence of the Salt River and Francis Creek (See Exhibit 1). Phase 2A (Upper) entails the removal of approximately 170,000 CY of sediment from the Salt River and Francis Creek channels and floodplains to enhance 2.2 miles of in-channel habitat and restore 26-acres of the riparian and wetland corridor.

Specific objectives of Phase 2A (Upper) include:

- Restoring 1.7 miles of Salt River channel and 0.5 miles of Francis Creek
- Excavating 170,000 cubic yards of aggraded sediment
- Providing fish passage to 5.9 miles of historic habitat
- Installing 48 large wood structures to enhance in-channel complexity, afford cover for various fish species, and provide hydrologic functional elements
- Revegetating 24.3 acres of riparian corridor along 2.2 miles of the river channel, 1.7 acres of wetland habitat, and 5.3 acres of aquatic environment
- Improving and enhancing the productivity for 150 acres of surrounding agricultural land through increased drainage; and

- Improving emergency access and reducing the threat to the Ferndale Wastewater Treatment Plant by reducing prolonged closures of 0.45 miles of road and flooding affecting 10 homes.

Phase 2A (Upper) of the Project is part of the larger Salt River Ecosystem Restoration Project, which when complete will have excavated, restored, and enhanced a total of ten river/slough/riparian corridor miles and 330 acres of tidal marsh and adjacent wetland habitat. Following the 2016 construction season of Phase 2A (Upper), only Phase 2B will remain. In Phase 2B the RCD will extend the Salt River from Fulmor Bridge to slightly above the confluence of Williams Creek, at an estimated cost of $2.1 million. Phase 2B is the final phase of the entire Project. The RCD just secured sufficient funding from the Wildlife Conservation Board and other sources to enable them to complete the Salt River Ecosystem Restoration Project as a whole.

The Project, including Phase 2A (Upper) is guided by the best available science, and a rigorous mitigation monitoring and reporting program, as well as an Adaptive Management Plan, both of which ensure the measurement and reporting of project effectiveness and long-term sustainability.

The RCD is the California Environmental Quality Act (CEQA) lead agency and has served as the project lead for nearly 25 years. Its close relationship with the agricultural community has enabled it to advance a large, challenging, and at times controversial project in a fashion that has generated enthusiasm from the agricultural, environmental and regulatory communities. Now, after years of effort, design and fundraising, the RCD has completed major components of the Project and is prepared to continue construction this summer.

Site Description: The Project is located near Ferndale, Humboldt County (Exhibit 1). The area is extensively described in earlier staff recommendations (Exhibit 2). The area and Project, notably the flooding and ponding conditions prompting the Project, are also extensively analyzed in the Final Environmental Impact Report that was reviewed by staff and for which findings were issued by the Conservancy Board on May 19, 2011 (Exhibit 2). Since the Board first authorized implementation funds for this Project, three phases of implementation have been completed and drainage and habitat conditions have improved markedly.

Project History: The Conservancy's commitment to the Project dates back to the late 1980s. At that time the Conservancy provided the then new RCD with its first grant to explore alternatives for alleviating flooding in the Ferndale area. That history is described in detail under the "project history" section of the staff recommendation for the final design, October 21, 2010 (Exhibit 2).

Since that time, the Conservancy has disbursed nearly $2.75 million towards advancing the Project, including feasibility studies, design work, engineering and hydrology, acquiring property, securing public access, and funding implementation. In addition, staff has dedicated months if not years of staff time to developing this multi-benefit project. Since the award of the final design grant and implementation grant the RCD has succeeded in bringing three major construction seasons to fruition, and achieved better than expected results for agricultural enhancement and ecosystem restoration.

The RCD applied for funding for Phase 2A (Upper) of the Project in Round One of the Conservancy's Proposition 1 solicitation for 2015. The proposal was reviewed along with many other projects and it ranked highly in the review process. The Conservancy staff notified the

RCD of its decision to recommend funding for Phase 2A (Upper) of the Project in December 2015.

PROJECT FINANCING

Phase 2A (Upper)

Coastal Conservancy*	$649,000
California Department of Fish and Wildlife (Prop 1)	$1,843,107
Wildlife Conservation Board	$120,000
State Water Resources Control Board (IRWMP)	$177,869
California Department of Water Resources	$716,634
NOAA Coastal Resiliency	$475,971
Natural Resources Conservation Service	$115,000
Total Project Costs	$4,097,581

*The Conservancy funds represented in this project budget do not include previous grants from the Conservancy for related property acquisition, planning, and construction. See Exhibit 2 for additional detail.

The expected source of Conservancy funds for Phase 2A (Upper) is the fiscal year 2015/16 appropriation to the Conservancy from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code § 79700 et seq.). Funds appropriated to the Conservancy derive from Chapter 6 (commencing with § 79730) and may be used "for multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds of the state" (Section 79731). Section 79732 identifies specific purposes of Chapter 6 and includes: protect and restore aquatic, wetland and migratory bird ecosystems, including fish and wildlife corridors; protect and restore coastal watersheds, including, but not limited to bays, marine estuaries, and nearshore ecosystems; and assist in the recovery of endangered, threatened or migratory species by improving watershed health, instream flows, fish passage and coastal or inland wetland restoration.

As required by Proposition 1, the proposed project provides multiple benefits. By working to restore the Salt River watershed, historically a tidal slough of the Eel River fed by multiple tributary streams, the Project has and will continue to significantly improve ecological and hydraulic function, while also increasing the agricultural productivity of the surrounding dairy country by alleviating long-term flooding and ponding. The Project will help achieve the three Chapter 6 purposes identified above in that it will restore an historic channel that provided both aquatic habitat and hydraulic conveyance capacity, both of which were lost as the channel filled with sediment.

In accordance with Section 79707(b), which requires agencies to prioritize "projects that

leverage private, federal, or local funding or produce the greatest public benefit", this project leverages federal funding as noted above. Additionally, as a demonstration project of innovative adaptive management techniques intended to protect the function and maintain the performance of the Project, the project satisfies Section 79707(e) which grants "special consideration" to "projects that employ new or innovative technology or practices."

The Phase 2A (Upper) of the Project was selected through a competitive grant process under the Conservancy's *Proposition 1 Grant Program Guidelines* adopted in June 2015 ("Prop 1 Guidelines"). (See § 79706(a)). The proposed project meets each of the evaluation criteria in the Prop 1 Guidelines as described in further detail in this "Project Financing" section, the "Project Summary" section and in the "Consistency with Conservancy's Project Selection Criteria & Guidelines" section of this report.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The Project would be undertaken pursuant to Chapter 6 of the Conservancy's enabling legislation, Public Resource Code Sections 31251-31270, and remains consistent with this Chapter as described in the previous staff recommendations, Exhibit 2.

CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S) AS REVISED JUNE 25, 2015 :

The Project was found consistent with earlier Strategic Plans, and remains consistent with the Conservancy's 2013-2018 Strategic Plan in the following respects:

Consistent with **Goal 4, Objective B** the Project will protect working lands tby alleviating nuisance flooding and ponding that adversely impact agricultural production in the area.

Consistent with **Goal 4, Objective C**, the Project will cumulatively protect, preserve and restore nearly 1,000 acres of fish and wildlife corridors between core habitat areas along the coast and from coastal to inland habitat areas by restoring aquatic habitat function along the Salt River and its tributaries.

Consistent with **Goal 5 Objective B** cumulatively, the Project will restore and enhance 808 acres of coastal habitat, including 334 acres of tidal salt and brackish marsh, 40 acres of mudflat/high marsh ecotone, 125 acres of riparian forest/scrub, 32 acres of freshwater wetland habitat, 76 acres of grassland, and more.

Consistent with **Goal 5 Objective D** the Project as a whole will restore a once-significant terrestrial and aquatic wildlife corridor between inland habitat areas and the coast. Restoring more than 7 miles of the Salt River and associated slough network, including a significantly enhanced riparian corridor, will provide fish passage and terrestrial migration where it has not existed for decades. Phase 2A (Upper) in particular will complete 1.7 miles of that distance.

Consistent with **Goal 5, Objective G**, the Project will improve water quality to benefit coastal and ocean resources by reducing erosion, aggradation and the threat of episodic delivery of vast sediment supplies into coastal rivers. Aging culverts are notorious for failing during significant storm events, delivering substantial sediment pulses adverse to fishery resources in the process. The proposed project will prevent that outcome by ensuring that the active stream channel and

accompanying sediment load are matched.

Consistent with **Goal 6 Objective B** the Project will significantly improve and enhance hundreds of acres of potentially verdant pasture by reducing flooding and ponding association with the current hydraulic dysfunction of the Salt River.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Promotion and implementation of state plans and policies:** The Project is consistent with the following state plans and policies concerning restoration of riparian habitat and increasing natural production of the coastal salmon populations that depend upon that habitat for certain life history stages.

    a. The Project is consistent with the recommendations for planning, acquisition and habitat enhancement made in the report Natural Resources of the Eel River Delta, published by the California Department of Fish and Game in November 1974. Among other things, the report recommended higher levels of protection for the Delta's natural resources, restoration and floodplain enhancement efforts and acquisitions that would help advance ecosystem restoration –though they didn't use that expression—as a "highest and best use" of the Delta.

    b. While it doesn't specifically address the Eel Delta, the *Steelhead Restoration and Management Plan for California* of February 1996 features the Eel River and underscores the importance of reversing watershed disturbance through restoration activities. Focusing primarily on the introduction of Pikeminnow to the Eel River, the study's author knew and could have noted that juvenile salmonids are safer from predation in the Delta due to the fact that Pikeminnow cannot tolerate the high salinity of the Delta during summer months. Therefore, the Delta provides a refuge for juvenile salmonids, and other species, in an altered system. Thus, the Project specifically addresses the issues raised in the Steelhead Plan through alternative and likely more feasible and successful means than the chemical treatments recommended in the plan. Finally, and thematically, the plan advises that "(h)abitat improvement projects should be focused on the many areas throughout the State where steelhead habitat is severely degraded and restoration work is sorely needed." This is certainly true in the highly reclaimed Delta where opportunities abound to support the growth and survival of juvenile salmonids and other marine and freshwater species.

c. More recently, and more specifically, the Project is consistent with the California Fish and Game issued *Recovery Strategy For California Coho Salmon* of February 2004 in that the highest priority recommendation of that plan relating to the Eel Delta is to "(e)ncourage the Salt River Local Implementation Plan to incorporate coho salmon-friendly measures, in cooperation with the agencies." Advised in the early stages of project development, the Humboldt RCD has since done so and developed the Project in a way that has yielded impressive results in the form of increased coho salmon abundance on the newly restored Riverside Ranch. Additionally, the plan recommends that "(i)n cooperation with agencies and landowners, plan to re-establish estuarine function, restore and maintain historical tidal areas, backwater channels and salt marsh" (ER-HU-12 pg. 8.27).

d. The Project is consistent with the *Final Recovery Plan for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon (Oncorhynchus kisutch)* (National Marine Fisheries Service 2014). That report highlights the statewide importance of the Eel River population of Coho salmon and adds that "(t)he tributaries and estuary located within this population may serve as essential non-natal rearing habitats for all populations in the Eel River watershed" (SONCC 26-7). The report states that "(i)n the estuary, salt marsh was drained and riparian vegetation cleared to convert tidelands to pasture...Tideland reclamation and the construction of dikes and levees have changed the function of the estuary considerably. Slough and creek channels that once meandered throughout the delta are now confined by levees, sufficiently slowing flow to a point that many have become filled with sediment. Remnant slough channels are visible throughout the delta. The estuary and tidal prism have been reduced by over half of their original size (CDFG 2010b)." (SONCC p. 26-4). Top recommendations from the report include: 1) setback or remove dykes and levees; 2) restore salt marsh and tidal sloughs, and; 3) reconnect tidal channels and wetlands.

e. Finally, the Project is consistent with the California Water Action Plan, a collaborative effort of the California Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture. This plan was developed to meet three broad objectives: more reliable water supplies, the restoration of species and habitat, and a more resilient, sustainably managed water resources system. It lays out the state's challenges, goals and actions needed to put California's water resources on a safer, more sustainable path. The plan identifies ten overarching strategies to protect our resources, include two particular to this project that the Conservancy can help implement: 4) *Protect and restore important ecosystems (restore coastal watersheds and strategic coastal estuaries to restore ecological health and nature system connectivity to benefit local water systems and help defend against sea level rise, eliminate barriers to fish migration)* and 7) *Increase flood protection (encourage flood projects that plan for climate change and achieve multiple benefits).*

3. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
4. **Support of the public:** The Project enjoys widespread support as displayed in the many prior staff recommendations (Exhibit 2) and continued funding the Project attracts. Previous letters of support for the Project have come from such diverse groups as the Humboldt County Farm Bureau, Friends of the Eel River, the Salt River Watershed Council, U.S. Congressman Jared Huffman, State Senator Mike McGuire, Assemblyman Jim Wood, the County of Humboldt, and many resource agencies including the Department of Fish and Wildlife, NOAA Fisheries and others Current letters of support have been received from Congressman Huffman, the County of Humboldt, the City of Ferndale and the Salt River Watershed Council (Exhibit 3)..
5. **Location:** The Project site is within the coastal zone, and will benefit numerous coastal resources by providing coastal salmon populations with sufficient floodplain habitat to fulfill their life history patterns, and by improving the productivity of prime agricultural land in the coastal zone.
6. **Need:** Without grant funding, the HCRCD will be unable to maintain its momentum and advance the Project this construction season.
7. **Greater-than-local interest:** See Exhibit 2.
8. **Sea level rise vulnerability:** The floodplain enhancement component of the Project will experience sea level rise, but Phases 2A and 2B will not be threatened. Moreover, restoring hydraulic conveyance within the watershed will help the habitat and community adapt well to sea level rise. All project elements will be designed so as to withstand projected sea level rise levels that would impair access in the area. The restored habitat areas face no imminent threat from increasingly saline conditions and would in fact provide increased estuarine habitat benefits under a sea level rise scenario.

Additional Criteria

9. **Urgency:** Flooding and sediment deposition continues to occur on a regular basis above the completed reach of the Project area. Residents are negatively impacted with every rain event, as are City and County infrastructure. In at least one instance, a local resident has taken matters into his own hands and constructed a large berm that redirects much of the area flow out away from the drainage and onto surrounding lands in a different drainage. This independent, unproductive and unpermitted manipulation of the watershed is what the Project seeks to avoid through a timely completion. Conservancy assistance will help ensure that the RCD can achieve another successful construction season this year, as planned.
10. **Resolution of more than one issue**: See Exhibit 2.
11. **Leverage**: See the "Project Financing" section above.
12. **Conflict resolution**: See Exhibit 2.
13. **Readiness**: Having successfully completed three major construction seasons, the Humboldt RCD has demonstrated its ability and desire to continue the project timely and successfully.
14. **Realization of prior Conservancy goals**: "See "Project History" above."

15. **Cooperation**: In addition to stretching the Humboldt RCD and helping it grow into the steward of a sizeable public works project, the Project has enabled the Salt River Watershed Council to form and evolve from a relatively informal idea to a formal group that intends to take over the long-term management of the Project once completed. This is an extraordinary undertaking since it involves integrating CEQA and permitting requirements with the existing Adaptive Management Plan and maintaining channel and ecological functions with traditional agricultural tools and approaches. This unique partnership between the agricultural and regulatory communities now serves as a model for protecting and enhancing agriculture in the coastal zone while also providing for the enhancement of natural resources there
16. **Vulnerability from climate change impacts other than sea level rise:** According to modeling projections that forecast temperature change and other impacts associated with climate change, Humboldt County is one of the rare areas where major habitat disruptions resulting from climate change are not anticipated. Relative to other areas of the state and nation, the Project is not as vulnerable to climate change effects.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The Project will enhance habitat and agricultural productivity within the Coastal Zone generally, and within the jurisdiction of Humboldt County's Local Coastal Plan Eel River Area particularly.

As described in the FEIR, pp. 3.8-1 through 3.8-26, the Project adheres to the Humboldt LCP guidelines.

COMPLIANCE WITH CEQA:

The proposed authorization is to fund Phase 2A(Upper) of the Project. At its May 19, 2011 meeting, the Conservancy independently reviewed the *Final Environmental Impact Report: Salt River Ecosystem Restoration Project*, certified by the RCD on February 24, 2011, which addresses the environmental effects of the Project. (see Exhibit 2). The Conservancy found that the Project as designed avoids, reduces or mitigates the potentially significant environmental effects to a less-than-significant level, and that there is no substantial evidence based on the record as a whole that the Project may have a significant effect on the environment. There have been no changes since May 19, 2011 that trigger the need for additional CEQA review of the Project. Accordingly, no further environmental documentation is required under CEQA.